WHAT IS CLAIMED:

1. In an arrow having a hollow shaft with a front end and a rear end, said arrow having an arrowhead situated at the front end of the shaft and an arrow aperture being an aperture situated at the rear end of the shaft, and said arrow having a locating device associated therewith, the claimed invention is a detachable nock for carrying the locating device with the arrow and for separating the locating device from the arrow and securing the locating device to a target, said detachable nock comprising

a nock body, having a front and a rear;

a means for carrying the locating device,

a bowstring receiving means situated at the rear of the nock body;

an attachment component situated at the front of the nock body, said attachment component suitably adapted for removably attaching the detachable nock to the arrow; and

a retention component for securing the detachable nock to the target.

2. The detachable nock of claim 1, wherein the means for carrying the locating device comprises a hollow chamber situated within the interior of the nock body and suitably dimensioned to snugly accommodate the locating device so as to prevent movement of the locating device within the nock body when the locating device is inserted within the hollow chamber.

3. The detachable nock of claim 2, wherein the nock body further comprises a forward aperture extending from the hollow chamber through the front of the nock body such that an antenna attached to the locating device may pass out of the hollow chamber through the forward aperture and into the hollow shaft of the arrow.

4. The detachable nock of claim 2, wherein the bowstring receiving means comprises

a flanged end cap having a first flange and a second flange,

with the first and second flanges depending generally rearward from the flanged end cap and being substantially parallel to each other, and further being oriented to form a vertical notch between the flanges suitably adapted to receive a bow string.

5. The detachable nock of claim 4, wherein the flanged end cap is integrated into the rear of the nock body.

6. The detachable nock of claim 4, wherein

the nock body further comprises an aperture situated in the rear of the nock body which provides a communication between the hollow chamber and the exterior of the nock body; and

the flanged end cap further comprises a protrusion situated opposite the flanges, with the protrusion being suitably adapted to be removably inserted into the aperture in the rear of the nock body, thereby allowing the flanged end cap to be the securely attached to the nock body while providing access to the hollow chamber.

7. The detachable nock of claim 6, wherein

the rear aperture of the nock body is threaded; and

the protrusion of the flanged end cap is threaded;

such that the threads of the rear aperture accommodate the threads of the protrusion, thereby allowing the flanged end cap to be screwed into and unscrewed from the nock body while providing access to the hollow chamber.

8. The detachable nock of claim 2, wherein the attachment component is an extension of the nock body projecting from the front of the nock body and aligned longitudinally with the intended direction of the flight of the arrow and having a substantially cylindrical shape, and further comprising an insertion end and a base end, with the insertion end being furthest from the nock body and the base end being nearest and integrated into the nock body, and with the insertion end having a diameter just slightly smaller than the inside diameter of the arrow aperture.

9. The detachable nock of claim 8, wherein the base end of the attachment component has a diameter just slightly greater than the inside diameter of the arrow aperture.

10. The detachable nock of claim 2, wherein the attachment component is an extension of the nock body projecting from the front of the nock body and aligned longitudinally with the intended direction of the flight of the arrow and having a substantially cylindrical shape, and is comprised of two or more independent attachment flanges, each attachment flange constructed of a flexible material and being disposed forward from the nock body and oriented substantially parallel to each other, with there being a slight separation between the attachment flanges such that the attachment flanges may flex toward each other,

the attachment component having a diameter just slightly greater than the inside diameter of the arrow aperture when the attachment flanges are in their original unflexed orientation and a diameter just slightly smaller than the inside diameter of the arrow aperture when the attachment flanges are in their flexed orientation.

11. The detachable nock of claim 8, further comprising an adaptor, said adaptor having a substantially cylindrical shape and with an outside diameter just slightly smaller than the inside diameter of the arrow aperture such that the adapter is suitably adapted to fit into the arrow aperture and remain secured to the arrow,

said adapter having a central aperture passing through its length and aligned substantially along its longitudinal axis, said central aperture defined by an inner surface of the adapter, with a diameter of the central aperture being just slightly greater than the diameter of the insertion end of the attachment component, whereby the adapter receives the attachment component into the central aperture so as to removably attach the detachable nock to the adapter.

12. The detachable nock of claim 11, wherein the base end of the attachment component has a diameter just slightly greater than the diameter of the central aperture of the adapter.

13. The detachable nock of claim 11, wherein the attachment component further comprises one or more annular protrusions formed onto its surface and circumscribing the attachment component, with each annular protrusion being slightly deformable,

and the adaptor further comprises a like number of annular channels formed into the inner surface and circumscribing the central aperture, each annular channel suitably adapted to accommodate a corresponding annular protrusion, such that when the attachment component is fully inserted into the central aperture each annular protrusion is aligned with and fits into a corresponding annular channel, thereby removably attaching the detachable nock to the adapter.

14. The detachable nock of claim 11, wherein the attachment component further comprises one or more annular channels formed into its surface and circumscribing the attachment component; and

the adaptor further comprises a like number of annular protrusions formed onto the inner surface and circumscribing the central aperture, with each annular protrusion being slightly deformable, each annular channel suitably adapted to accommodate a corresponding annular protrusion, such that when the attachment component is fully inserted into the central aperture each annular protrusion is aligned with and fits into a corresponding annular channel, thereby removably attaching the detachable nock to the adapter.

15. The detachable nock of claim 8, further comprising an adaptor, said adaptor having a substantially cylindrical shape and with an outside diameter just slightly smaller than the inside diameter of the arrow aperture such that the adapter is suitably adapted to fit into the arrow aperture and remain secured to the arrow, and said adapter having a central aperture passing through its length and aligned substantially along its longitudinal axis, said central aperture defined by an inner surface of the adapter; and

the attachment component further comprising two or more independent attachment flanges, each attachment flange constructed of a flexible material and being disposed forward from the nock body and oriented substantially parallel to each other, with there being a slight separation between the attachment flanges such that the attachment flanges may flex toward each other, and with the attachment component having a diameter just slightly greater than the diameter of the central aperture of the adapter when the attachment flanges are in their original unflexed orientation and a diameter just slightly smaller than the diameter of the central aperture of the adapter when the attachment flanges are in their flexed orientation.

16. The detachable nock of claim 2, wherein the retention component comprises a means for creating an impediment to the forward flight of the arrow upon said means coming in contact with the target such that the impediment creates a force in opposition to the forward flight of the arrow sufficient to detach the detachable nock from the arrow,

said means being fixed in position relative to the nock body such that the retention component is always deployed and available for engagement upon contact with the target.

17. The detachable nock of claim 16, wherein the means for creating an impediment to the forward flight of the arrow comprises a fixed hook, having:

a shaft;

an attachment end; and

a barbed end;

with the attachment end of the fixed hook fixedly attached to the nock body and the shaft of the fixed hook curved towards the front of the nock body such that the barbed end of the fixed hook is forwardly directed towards the arrowhead and situated substantially in a plane aligned with the intended direction of the flight of the arrow.

18. The detachable nock of claim 17, further comprising a plurality of fixed hooks.

19. The detachable nock of claim 16, wherein the means for creating an impediment to the forward flight of the arrow comprises a grab member, having an attachment point and a contact element, with the grab member fixedly attached to the nock body at the attachment point and the contact element oriented so that it presents an impediment to forward motion when it comes in contact with the target.

20. The detachable nock of claim 19, further comprising a plurality of grab members.

21. The detachable nock of claim 19, wherein the grab member is constructed of a deformable material having the ability to flex while being resistant to breaking.

22. The detachable nock of claim 21, further comprising a plurality of grab members.

23. The detachable nock of claim 16, wherein

the attachment component is an extension of the nock body projecting from the front of the nock body and aligned longitudinally with the intended direction of the flight of the arrow and having a substantially cylindrical shape, and further comprising an insertion end and a base end, with the insertion end being furthest from the nock body and the base end being nearest and integrated into the nock body, and with the insertion end having a diameter just slightly smaller than the inside diameter of the arrow aperture and the base end having a diameter smaller than the diameter of the nock body, such that a lip is formed at the junction of the base end of the attachment component and the nock body;

and the means for creating an impediment to the forward flight of the arrow comprises a grab ring having an inside diameter just slightly greater than the diameter of the base end of the attachment component and smaller than the outside diameter of the rear end of arrow shaft, with the grab ring suitably adapted to fit over the base end of the attachment component and against the lip.

24. The detachable nock of claim 23, further comprising a grab member, having an attachment point and a contact element, with the grab member fixedly attached to the grab ring by its attachment point and the contact element oriented so that it presents an impediment to forward motion when it comes in contact with the target.

25. The detachable nock of claim 24, further comprising a plurality of grab members.

26. The detachable nock of claim 24, wherein the grab member is constructed of a deformable material having the ability to flex while being resistant to breaking.

27. The detachable nock of claim 26, further comprising a plurality of grab members.

28. The detachable nock of claim 2, wherein the retention component comprises a means for creating an impediment to the forward flight of the arrow upon said means coming in contact with the target such that the impediment creates a force in opposition to the forward flight of the arrow sufficient to detach the detachable nock from the arrow,

said means having an undeployed state and a deployed state,

with said means in the undeployed state positioned close to or substantially within the nock body and with said means in the deployed state appropriately positioned relative to the nock body to provide increased impediment to the forward flight of the arrow relative to said means in the deployed state,

with said means suitably adapted to alter its state from the undeployed state to the deployed state upon contact with the target.

29. The detachable nock of claim 28, wherein the means for creating an impediment to the forward flight of the arrow comprises a hinged hook having:

a grabbing prong, having a barbed end, a shaft, and a hinged end; and

a hinge;

with the hinge fixedly attached to the nock body, the hinged end of the grabbing prong movably attached to the hinge such that the grabbing prong pivots forward and backward in a plane aligned with the intended direction of the flight of the arrow, and with the shaft of the grabbing prong curved back toward itself forming a bend such that the barbed end is directed towards the hinged end.

30. The detachable nock of claim 29, further comprising a torsion spring integrated into the hinge and the hinged end of the grabbing prong.

31. The detachable nock of claim 29, further comprising a plurality of hinged hooks for engaging and lodging into the target.

32. The detachable nock of claim 29, wherein the retention component further comprises a barb guard suitably adapted to accommodate the barbed end of the grabbing prong.

33. The detachable nock of claim 32, further comprising a plurality of hinged hooks and a corresponding number of barb guards, each barb guard suitably adapted to accommodate the barbed end of a grabbing prong.

34. The detachable nock of claim 28, wherein the means for creating an impediment to the forward flight of the arrow comprises a pivoting grabber arm situated within a grabber slot,

with the grabber slot being a cavity formed within the nock body and having at least one side substantially opened to the exterior of the nock body, and

with the pivoting grabber arm being suitably adapted to pivot from a position whereby the pivoting grabber arm is substantially contained within the grabber slot to a position whereby the pivoting grabber arm is positioned substantially exterior to the grabber slot to engage with a target.

35. The detachable nock of claim 34, wherein the pivoting grabber arm is disposed about and rotationally attached to a fulcrum, said fulcrum situated within the grabber slot and fixedly attached to the nock body.

36. The detachable nock of claim 35, wherein the pivoting grabber arm further comprises two grab members situated substantially opposite each other about the fulcrum,

and with the grabber slot having a second side substantially opened, situated opposite the first opened side, such that the pivoting grabber arm may rotate about the fulcrum thereby extending both grab members substantially exterior to the grabber slot on opposite sides of the nock body.